

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (cancelled)

2. (cancelled)

3. (previously presented) A method of selecting an optimal color with respect to a background color using Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels, comprising the step of:

selecting a first point in the Munsell color-order system as a first color;

selecting a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception; and

determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range, wherein the first point is off the achromatic axis, a first distance and a second distance being defined from the achromatic axis respectively to the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis,

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the predetermined lightness range being from zero to ten, the perpendicularly intersecting line intersecting the achromatic axis at the lightness level of five, the second point being selected at a point in the Munsell color-order system so that a ratio of the first distance over the second distance is equal to or more than four.

4.(cancelled)

5.(previously presented) The method of selecting an optimal color with respect to a background color according to claim 3 wherein an inter-point distance is defined between the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis.

6.(cancel)

7.(original) The method of selecting an optimal color with respect to a background color according to claim 5 wherein the first point is off the achromatic axis while the second point is on the achromatic axis, the inter-point distance being at least four.

8.(cancel)

9.(previously presented) The method of selecting an optimal color with respect to a background color according to claim 3 wherein the optimal color range is defined on a circular plane that is perpendicular to the relative distance line at the second point, the circular plane being defined by a radius from the second point, the radius being determined by a predetermined angle at the first point with respect to the relative distance line.

10.(original) The method of selecting an optimal color with respect to a background color according to claim 9 wherein the predetermined angle is 15° for including at least two adjacent colors in the Munsell color-order system.

11.(previously presented) The method of selecting an optimal color with respect to a background color according to claim 3 further comprising an additional step of comparing the first color and the second color against predetermined pairs of undesirable color combinations.

12.(original) The method of selecting an optimal color with respect to a background color according to claim 11 wherein the second color is not used for display based upon said comparing.

13.(cancelled)

14.(cancelled)

15.(previously presented) A memory medium storing a computer executable program for selecting an optimal color with respect to a background color using Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels, the executable program comprising the steps of:

selecting a first point in the Munsell color-order system as a first color;

selecting a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point

forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception; and

determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range, wherein the first point is off the achromatic axis, a first distance and a second distance being defined from the achromatic axis respectively to the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis, the predetermined lightness range being from zero to ten, the perpendicularly intersecting line intersecting the achromatic axis at the lightness level of five, the second point being selected at a point in the Munsell color-order system so that a ratio of the first distance over the second distance is equal to or more than four.

16.(cancelled)

17.(previously presented) The memory medium storing a computer executable program according to claim 15 wherein an inter-point distance is defined between the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis.

18.(cancel)

19.(original) The memory medium storing a computer executable program according to claim 17 wherein the first point is off the achromatic axis while the second point is on the achromatic axis, the inter-point distance being at least four.

20.(cancel)

21.(previously presented) The memory medium storing a computer executable program according to claim 15 wherein the optimal color range is defined on a circular plane that is perpendicular to the relative distance line at the second point, the circular plane being defined by a radius from the second point, the radius being determined by a predetermined angle at the first point with respect to the relative distance line.

22.(original) The memory medium storing a computer executable program according to claim 21 wherein the predetermined angle is 15° for including at least two adjacent colors in the Munsell color-order system.

23.(currently amended) The memory medium storing a computer executable program according to claim ~~13~~ 15 further comprising an additional step of comparing the first color and the second color against predetermined pairs of undesirable color combinations.

24.(original) The memory medium storing a computer executable program according to claim 23 wherein the second color is not used for display based upon said comparing.

25.(cancelled)

26.(cancelled)

27.(previously presented) A system for selecting an optimal color with respect to a background color using Munsell color-order system, comprising:

a memory storage unit for storing data for representing the Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels;

a processing unit connected to said memory storage unit for selecting a first point as a first color and a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, said processing unit also determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range; and

a display unit connected to said processing unit for displaying the second color against the first color, wherein the first point is off the achromatic axis, a first distance and a second distance being defined from the achromatic axis respectively to the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis, the predetermined lightness range being from zero to ten, the perpendicularly intersecting line intersecting the achromatic axis at the lightness level of five, said processing unit selecting the second point at a point in the Munsell color-order system so that a ratio of the first distance over the second distance is equal to or more than four.

28.(cancelled)

29.(previously presented) The system for selecting an optimal color according to claim 27 wherein an inter-point distance is defined between the first point and the second point, said processing unit selecting the second point so that the first point and the second point forms perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis.

30.(cancel)

31.(original) The system for selecting an optimal color according to claim 29 wherein the first point is off the achromatic axis while the second point is on the achromatic axis, said processing unit selecting the second point so that the inter-point distance is at least four.

32.(cancel)

33.(previously presented) The system for selecting an optimal color according to claim 27 wherein said processing unit determines the optimal color range to be on a circular plane that is perpendicular to the relative distance line at the second point, the circular plane being defined by a radius from the second point, the radius being determined by a predetermined angle at the first point with respect to the relative distance line.

34.(original) The system for selecting an optimal color according to claim 33 wherein the predetermined angle is 15° for including at least two adjacent colors in the Munsell color-order system.

35.(previously presented) The system for selecting an optimal color according to claim 27 wherein said memory storage unit stores predetermined pairs of undesirable color combinations, said processing unit comparing the first color and the second color against the predetermined pairs of the undesirable color combinations.

36.(original) The system for selecting an optimal color according to claim 35 further comprising an input unit connected to said processing unit for inputting a user overruling signal for using the undesirable color combinations for display.

37.(original) A method of selecting an optimal color with respect to a background color using Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal

direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels, comprising:

selecting a first point in the Munsell color-order system as a first color;

selecting a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, the first point is off the achromatic axis, a first distance and a second distance being defined from the achromatic axis respectively to the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis, the predetermined lightness range is from zero to ten, the perpendicularly intersecting line intersecting the achromatic axis at the lightness level of five, the second distance being longer than the first distance, the second point being selected at a point in the Munsell color-order system so that a ratio of the first distance over the second distance is equal to or less than one-fourth; and

determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range.

38.(original) A method of selecting an optimal color with respect to a background color using Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels, comprising:

selecting a first point in the Munsell color-order system as a first color;



selecting a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, the first point is off the achromatic axis, a first distance and a second distance being defined from the achromatic axis respectively to the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis, the predetermined lightness range is from zero to ten, the perpendicularly intersecting line intersecting the achromatic axis at the lightness level of five, the first distance being longer than the second distance, the second point being selected at a point in the Munsell color-order system so that a ratio of the first distance over the second distance is equal to or more than four; and

determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range.

39.(currently amended) A method of selecting an optimal color with respect to a background color using Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels, comprising:

selecting a first point in the Munsell color-order system as a first color;

selecting a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, an inter-point distance is being defined between the first point and the second point, the first point and the second

point forming a parallel line that is parallel to the achromatic axis, the inter-point distance being at least four; and

determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range.

40.(currently amended) A method of selecting an optimal color with respect to a background color using Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels, comprising:

selecting a first point in the Munsell color-order system as a first color;

selecting a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, an inter-point distance is being defined between the first point and the second point, the first point and the second point forming a perpendicular line that is perpendicular to the achromatic axis, the inter-point distance being at least four; and

determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range.

41.(currently amended) A system for selecting an optimal color with respect to a background color using Munsell color-order system, comprising:

a memory storage unit for storing data for representing the Munsell color-order system, the Munsell color-order system being represented in a three dimensional space

around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels;

a processing unit connected to said memory storage unit for selecting a first point as a first color and a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, the first point ~~is being~~ off the achromatic axis, a first distance and a second distance being defined from the achromatic axis respectively to the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis, the predetermined lightness range is from zero to ten, the perpendicularly intersecting line intersecting the achromatic axis at the lightness level of five, the first distance being longer than the second distance, said processing unit selecting the second point at a point in the Munsell color-order system so that a ratio of the first distance over the second distance is equal to or more than four, said processing unit also determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range; and

a display unit connected to said processing unit for displaying the second color against the first color.

42.(original) A system for selecting an optimal color with respect to a background color using Munsell color-order system, comprising:

a memory storage unit for storing data for representing the Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a

predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels;

a processing unit connected to said memory storage unit for selecting a first point as a first color and a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, the first point is off the achromatic axis, a first distance and a second distance being defined from the achromatic axis respectively to the first point and the second point, the first point and the second point forming a perpendicularly intersecting line that intersects the achromatic axis and is perpendicular to the achromatic axis, the predetermined lightness range is from zero to ten, the perpendicularly intersecting line intersecting the achromatic axis at the lightness level of five, the second distance being longer than the first distance, said processing unit selecting the second point at a point in the Munsell color-order system so that a ratio of the first distance over the second distance is equal to or less than one-fourth, said processing unit also determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range; and

a display unit connected to said processing unit for displaying the second color against the first color.

43.(original) A system for selecting an optimal color with respect to a background color using Munsell color-order system, comprising:

a memory storage unit for storing data for representing the Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels;

a processing unit connected to said memory storage unit for selecting a first point as a first color and a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, an inter-point distance is defined between the first point and the second point, said processing unit selecting the second point so that the first point and the second point forming a parallel line that is parallel to the achromatic axis and that the inter-point distance being at least four, said processing unit also determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range; and

a display unit connected to said processing unit for displaying the second color against the first color.

44.(original) A system for selecting an optimal color with respect to a background color using Munsell color-order system, comprising:

a memory storage unit for storing data for representing the Munsell color-order system, the Munsell color-order system being represented in a three dimensional space around an achromatic axis in a vertical direction, the vertical direction representing a predetermined lightness range of lightness levels, a horizontal direction representing a predetermined saturation range of saturation levels, a circumference around the achromatic axis representing a predetermined hue range of hue levels;

a processing unit connected to said memory storage unit for selecting a first point as a first color and a second point in the Munsell color-order system as a second color at a predetermined relative distance from the first point, the first point and the second point forming a relative distance line, the second color being sufficiently distinctive in combination with the first color for desired human perception, an inter-point distance is defined between the first point and the second point, said processing unit selecting the second point so that the first point and the second point forming a

perpendicular line that is perpendicular to the achromatic axis and that the inter-point distance being at least four,  
said processing unit also determining an optimal color range of colors from the second point in the Munsell color-order system, the second color being selected from the optimal color range; and

a display unit connected to said processing unit for displaying the second color against the first color.